

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 13 to 30 are renumbered 12 to 29, respectively, and claims 1 to 27 are cancelled herein. Claims 30 to 43 are added:

Claims 1 to 27 (Cancelled).

28. (Currently Amended) A projection exposure system defining an optical axis and comprising:

an illuminating unit mounted on said optical axis for transmitting a light beam along said optical axis;

5 a projection objective arranged on said optical axis downstream of said illuminating unit;

a mask held in the beam path of said light beam between said illuminating unit and said projection objective;

10 a substrate holder for holding a substrate in said beam path downstream of said projection objective; and,

said projection objective defining a maximum lens diameter ~~(D2)~~ and including:

a plurality of lenses defining an object plane ~~(O)~~ and an image plane ~~(I)~~;

15 at least two of said lenses having respective mutually adjacent lens surfaces which are aspheric to define a double asphere;

said double asphere being mounted at a distance from said image plane ~~(I)~~ corresponding at least to said maximum lens

20 diameter ~~(D2)~~;
the lenses of said double asphere defining a mean lens
diameter; and,
said mutually adjacent lens surfaces being mounted at a
spacing from each other which is less than half of said mean
25 lens diameter.

29. (Currently Amended) A method of making a microstructured
component utilizing a projection exposure system including an
illuminating unit mounted on said optical axis for
transmitting a light beam along said optical axis; a
5 projection objective arranged on said optical axis downstream
of said illuminating unit; a mask held in the beam path of
said light beam between said illuminating unit and said
projection objective and said mask holding a pattern; a
substrate holder for holding a substrate in said beam path
10 downstream of said projection objective; and, said projection
objective defining a maximum lens diameter ~~(D2)~~ and including:
a plurality of lenses defining an object plane ~~(0)~~ and an
image plane ~~(0')~~; at least two of said lenses having
respective mutually adjacent lens surfaces which are aspheric
15 to define a double asphere; said double asphere being mounted
at a distance from said image plane ~~(0')~~ corresponding at
least to said maximum lens diameter ~~(D2)~~; the lenses of said
double asphere defining a mean lens diameter; and, said
mutually adjacent lens surfaces being mounted at a spacing
20 from each other which is less than half of said mean lens
diameter, the method comprising the steps of:

providing said substrate as a substrate having a
light-sensitive layer thereon;
holding said substrate in said beam path exposing said
25 light-sensitive layer with ultraviolet laser light from said

illuminating unit; and,

developing the exposed light-sensitive layer to structure said substrate to have said pattern of said mask.

30. (New) A refractive projection objective comprising:

two lens groups of negative refractive power;

at least one of said lens groups of negative refractive power including only two lenses of negative refractive power;

5 the other one of said lens groups of negative refractive power having maximally two lenses of negative refractive power; and,

said lens groups defining at least two constrictions and an aspheric lens surface is arranged in the second
10 constriction.

31. (New) The refractive projection objective of claim 30,

further comprising a lens group of positive refractive power

including at least one lens having an aspheric surface; and, a diaphragm mounted in said lens group of positive refractive

5 power.

32. (New) The refractive projection objective of claim 30,

further comprising at least two lenses having respective

mutually adjacent lens surfaces which are aspheric to define a double asphere.

33. (New) The refractive projection objective of claim 30,

wherein said refractive projection objective defines a maximum lens diameter and said refractive projection objective further comprises:

5 a plurality of lenses defining an object plane and an image plane;

at least two of said lenses having respective mutually adjacent lens surfaces which are aspheric to define a double asphere;

10 said double asphere being mounted at a distance from said image plane corresponding at least to said maximum lens diameter;

the lenses of said double asphere defining a mean lens diameter; and,

15 said mutually adjacent lens surfaces being mounted at a spacing from each other which is less than half of said mean lens diameter.

34. (New) The projection objective of claim 33, wherein said plurality of lenses defines at least two constrictions.

35. (New) The projection objective of claim 33, comprising at least two of said double aspheres and said spacings thereof being equidistant.

36. (New) The projection objective of claim 33, wherein the radii of the best-fitting spherical lens surfaces of one of said double aspheres differ from one another by less than 30%.

37. (New) The projection objective of claim 33, wherein the apex radii of the best-fitting spherical lens surfaces of a double asphere, which are assigned to the respective aspheric lens surfaces, differ from one another by less than 30%.

38. (New) The projection objective of claim 33, wherein the diameters of the first thirteen lens surfaces hardly differ from each other, preferably by less than 10%.

39. (New) The projection objective of claim 33, wherein a numerical aperture of at least 0.8 is made available by the double asphere.

40. (New) The projection objective of claim 33, wherein a numerical aperture of at least 0.9 is made available by the double asphere.

41. (New) The projection objective of claim 33, wherein two mutually adjacent lens surfaces define an intermediate space chargeable with a fluid.

42. (New) The projection objective of claim 33, wherein at least 40% of the lenses are spherical.

43. (New) The projection objective of claim 33, wherein at least 60% of the lenses are spherical.